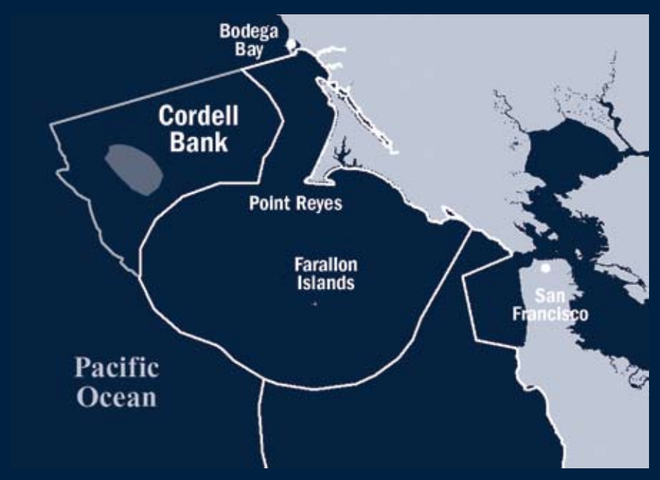
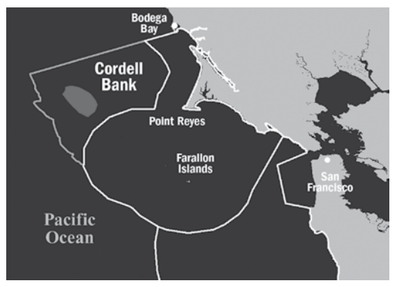
Sophie Webb, © 2004



Seabirds

of Cordell Bank National Marine Sanctuary

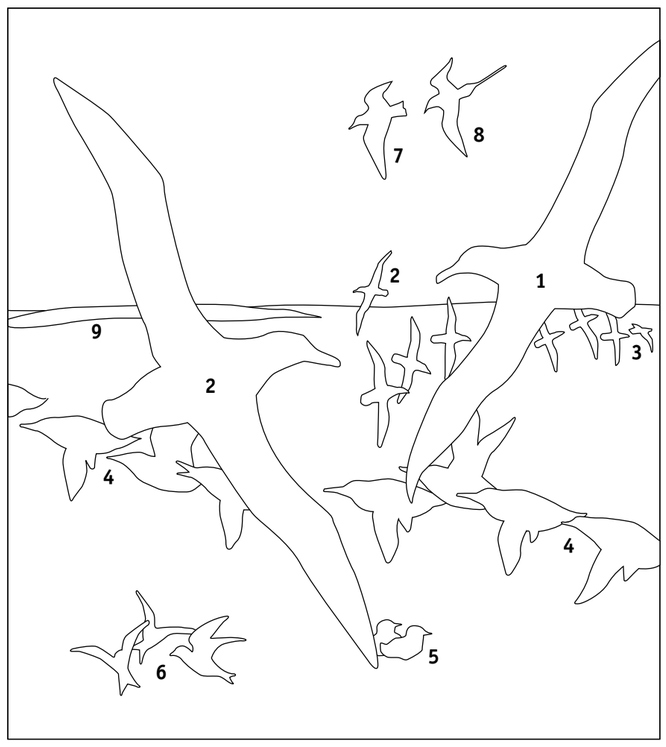
Cordell Bank National Marine Sanctuary protects an area of 526 square miles in one of the most productive offshore regions in North America. The sanctuary is located approximately 43 nautical miles northwest of the Golden Gate Bridge, and San Francisco, California. The prominent feature of the Sanctuary is a submerged granite bank 4.5 miles wide and 9.5 miles long, which lay submerged 120 feet below the ocean's surface. This unique undersea topography, in combination with the nutrient-rich ocean conditions created by the physical process of upwelling, produces a lush feeding ground for countless invertebrates, fishes (over 180 species), marine mammals (over 25 species), and seabirds (over 60 species). The undersea oasis of the Cordell Bank and surrounding waters teems with life and provides food for hundreds of thousands of seabirds that travel from the Farallon Islands and the Point Reyes peninsula or have migrated thousands of miles from Alaska, Hawaii, Australia, New Zealand, and South America. Cordell Bank National Marine Sanctuary is also known as the albatross capital of the Northern Hemisphere because numerous species visit these waters. The United States National Marine Sanctuaries are administered and managed by the National Oceanic and Atmospheric Administration (NOAA) who work with the public and other partners to balance human use and enjoyment with long-term conservation.



1. Black-footed Albatross (*Phoebastria nigripes*)
The Black-footed Albatross migrates, rests, and searches for food across vast regions of the North Pacific Ocean. This species breeds on islands in the Hawaiian Island chain and off Japan from late October to mid June. Their long tapered wings, 6 feet in length, allow them to soar (flying without flapping their wings) and make long flights in search of prey. Starting in early spring, breeding adults fly from the Hawaiian Islands to the productive waters off central California to find food for their chicks, a round trip of 7,000 miles. Most birds return to the same island where they hatched when seven years old, have one mate throughout their life, and can live at least 45 years (based on banding records). The International Union for Conservation of Nature has designated this species as "Endangered" due to drastic projected population declines in the coming decades. Although they can be seen year round off California, they are most abundant in late spring and summer. A characteristic behavior of this species is to follow fishing boats to feed on fish scraps and guts, offering fantastic up-close views of these pelagic travelers.

2. Laysan Albatross (*Phoebastria immutabilis*)
The Laysan Albatross is named for Laysan Island, a small island in the leeward Hawaiian Island chain, where this albatross nests in the 1000's. Of the three albatross species that inhabit the North Pacific Ocean, the Laysan is most common in the western Pacific near Japan and around the Aleutian Islands of Alaska. Small numbers are seen off central California throughout the year, although they are most common in October through April. Recently, this species has settled on several islands off Baja California, Mexico, where they have been breeding since the mid 1980s. Laysan Albatross are known to feed frequently on squid and are suspected to have more nocturnal habits than the Black-footed, possibly spending more time looking for food at night. The Laysan Albatross, like the Black-footed, has a wingspan of 6 to 7 feet. These birds fly effortlessly, gliding gracefully over the ocean. When at sea, it's a thrill to spot an albatross on the far horizon and within minutes watch it appear for a brief moment alongside your vessel!

3. Sooty Shearwater (*Puffinus griseus*)
The Sooty Shearwater is named for its sooty-brown coloration and ability to sail or shear the top of the water. Sooties migrate over 14,000 miles from their Southern Hemisphere breeding colonies in Chile, New Zealand, and Australia to the food-rich waters of the California Current during the northern boreal summer (May to September), where they become the most numerous seabird species, with an estimated 5 million birds foraging at sea off California, Oregon and Washington. Their wings are designed not only for use



in flight, but also serve as powerful paddles used in combination with their feet to dive underwater after schooling fish, krill, or squid. They are capable of diving close to 200 feet. During the southern austral summer (October to April) Sooties nest in dense, noisy colonies and each pair raises only one chick a year in underground burrows 3 to 6 feet in length.

4. Common Murre (*Uria aalge*)
The Common Murre is a wing-propelled diving seabird, capable of diving to depths exceeding 650 feet. They are abundant over the shallow waters of the continental shelf, 5 to 125 miles from shore, where they feed primarily on schooling fishes, including northern anchovy, juvenile rockfish and market squid. Murres rarely come to shore, except to breed on offshore islands such as the Farallon Islands and islets off Point Reyes National Seashore (May to July). Both males and females look alike, in tuxedo-like black and white plumage. Murres lay one egg, and raise one chick which is cared for by both parents while at the nest. However, male murres have sole responsibility for provisioning flightless young in the ocean for 4 to 5 weeks after departure from their nesting cliffs.

5. Cassin's Auklet (*Ptychoramphus aleuticus*)
A rotund, baseball-sized bird, the Cassin's Auklet can be seen buzzing across the waves singly or in small flocks. Like the Blue Whale, this auklet specializes on krill, but also eats larval fishes. Cassin's Auklets breed on the Farallon Islands, in the Channel Islands, and on various other islands north to Alaska and south to Mexico. Typical of most other auks (family Alcidae), Cassin's lay one egg per year, however, unique to this species, they are able to double-clutch (produce successive chicks) in years when food is abundant. Cassin's are identified by their small size, overall gray coloration, and stubby bill, which has a light spot at the base. When examined in the hand, their legs and feet are bright blue.

6. Ashy Storm-petrel (*Oceanodroma homochroa*)
An endemic of the California Current region, the Ashy Storm-Petrel breeds on islands off southern and central California. Ashys are sparrow-sized seabirds that appear tiny and fragile as they flutter among the sometimes towering ocean waves. Despite their small size, they are related to albatross and share the trait of living a long life (over 30 years). They are generally solitary at sea but sometimes occur in large concentrations (or rafts) of several 100's to 1000's in the Cordell Bank National Marine Sanctuary and other regions off California when conditions and food are just right. Aided by their well-developed sense of smell, they search for food, which they pluck from the sea surface. They feed on small prey such as crustaceans, larval fish, and squid, by dipping and pattering on the surface of the water (appearing to be walking on water). Because these birds are often seen by sailors during stormy conditions they became associated with storms and were coined storm-petrels.

7. Sabine's Gull (*Xema sabini*)
A small and graceful member of the gull family, Laridae, the Sabine's Gull is a pelagic (open ocean) species often seen during the spring and fall migration. Sabine's gulls nest in the high latitude Arctic in the tundra. They migrate south to the southern Pacific Ocean offshore of central and South America after breeding. This species is identified by their contrasting tri-colored wing pattern and dainty size. The bill is bi-colored: a yellow tipped black bill. Little is known about the foraging ecology of this species when away from their breeding colonies.

8. Long-tailed Jaeger (*Stercorarius longicaudus*)
Jaegers and the related skuas, family Stercorariidae, are known for their piracy behavior: kleptoparasitism. They are often seen chasing small gulls, and terns, attempting to steal food from them. They are identified by their behavior and conspicuous white primary shafts, which appear as a white patch on the upper-wing. The Long-tailed adult is distinguished from the other two species by its petite size, lack of a distinct collar and long, elegant central tail-feathers. In the California Current they are migrants either on their way to or from their nesting areas in the Arctic tundra. Jaegers lay 1 to 2 freckled eggs in nests built on the ground and lined with mosses and lichens. Jaegers return to the same mate and nest site every year.

9. Blue Whale (*Balaenoptera musculus*)
The largest of the baleen whales (Order Cetacea, suborder Mysticeti), the Blue Whale can attain a maximum length of 98 feet. They feed upon krill, small shrimp-like crustaceans less than one inch long. Blues can migrate extensive distances between calving areas and North Pacific foraging areas. They are most common off California from June through November and their presence is likely related to ocean conditions that concentrate large, dense, and short-lived patches of krill. Blue Whales are federally listed as endangered by the Endangered Species Act. They are distinguished from the other light-colored gray whales by their large size, mottled blue-gray coloration, and small curved dorsal fin.

Threats and Seabird Conservation
In our gradually overpopulated and resource-limited world there are several pervasive human-related threats to seabirds. Even offshore, marine animals like those found within the Cordell Bank National Marine Sanctuary and other open ocean regions are directly affected by human actions and thus deserve our attention.

Plastic pollution has become increasingly common sight in the world's oceans. Birds can become entangled in plastic rings or plastic fishing gear thousands of miles from shore. Surface-feeding storm-petrels, albatrosses, and shearwaters are prone to ingesting plastic fragments because this material does not biodegrade but breaks up into tiny particles that look much like their natural foods.

Common Murres, because they often nest and feed in coastal regions near busy ports, have been severely affected by oil spills and also by entanglements in gillnets and hook and line gear. Albatrosses have a high incidence of death in U.S. and foreign commercial long-line fisheries because they are attracted to the impressive density of bait when thousands of hooks are deployed into the water. On islands, where seabirds mate, rear young, molt, and rest, populations are affected by the introduction of cats, rats and pigs which will eat both eggs and young and degrade habitat.

Good stewardship of marine bird populations must include keeping our oceans and connected watersheds clean and reducing disturbances on islands resulting from human activities and introduced predators. We can help conserve the ocean environment, even from land, by making educated consumer choices, reducing our dependency on plastic, understanding the fate of pollution we create at work and at home, reducing energy consumption, becoming active in local and national public processes that involve marine resources, participating in beach cleanups and oil spill monitoring, and supporting groups working to gain knowledge and find solutions. Cordell Bank National Marine Sanctuary, in cooperation with other government, academic, and non-profit organizations will continue to document and evaluate the health of marine species and ecological relationships in this rich ecosystem and support effective conservation actions.

To learn more visit www.cordellbank.noaa.gov and www.oikonos.org

Cordell Bank National Marine Sanctuary www.cordellbank.noaa.gov P.O. Box 159, Olema, CA 94956, USA (415) 663-0314
Cordell Bank National Marine Sanctuary is one of 13 national marine sanctuaries in the United States. The Cordell Bank National Marine Sanctuary was established in 1989 to protect and preserve the extraordinary ecosystem, including marine birds, mammals, and other natural resources of Cordell Bank and its surrounding waters.

Oikonos Ecosystem Knowledge www.oikonos.org P.O. Box 979, Bolinas, CA 94924, USA (415) 868-1399
Oikonos is a non-profit 501 (c) (3) organization working locally and internationally to increase ecosystem knowledge. Oikonos people bring collective diversity with expertise in field ecology, observation, research, database and mapping skills, writing, art, and interpretation. Oikonos' vision includes incorporating creative ways to communicate ecosystem knowledge to the world. In collaboration with Cordell Bank National Marine Sanctuary, one of Oikonos' goals is to study the relationships among marine birds and their oceanic habitats to enhance the knowledge-base for assessing population health and conservation.

Illustrations and watercolor by Sophie Webb, © 2004
As a biologist and artist, Sophie Webb has studied and painted birds from Alaska to Antarctica. Her illustrations appear in "A Guide to the Birds of Mexico and Northern Central America" which she co-authored. She is a highly accomplished seabird and marine mammal biologist, author of two award winning children's books, co-founder of Oikonos Ecosystem Knowledge, and lives in Felton, California, USA.

Natural History Text by Hannah Nevins, Sophie Webb, and Carol Keiper of Oikonos

oikonos

National Marine Sanctuaries ™
Cordell Bank